

WHAT IS CLAIMED IS:

[1] A guide apparatus including:

a track rail having rolling element rolling surfaces extending in a longitudinal direction thereof; and

5 a moving block relatively movably attached to said track rail, said moving block having an approximately U-shaped sectional configuration in a plane perpendicular to the longitudinal direction of said track rail, said moving block having skirt portions formed at both sides of an  
10 opening thereof and being mounted astride said track rail,

said moving block having:

a moving block body having load rolling element rolling surfaces that form load rolling element rolling passages in cooperation with said rolling element rolling  
15 surfaces, said moving block body further having rolling element relief bores associated with said load rolling element rolling surfaces; and

end plates mounted astride said track rail and secured to both ends of said moving block body in a  
20 direction of relative movement of said moving block, said end plates each having rolling element direction change passages that form rolling element recirculation passages in cooperation with said load rolling element rolling passages and rolling element relief bores;

25 wherein a plurality of rolling elements are disposed in said rolling element recirculation passages so as to recirculate in response to relative movement of said track rail and moving block;

said guide apparatus being characterized by comprising:

foreign matter entry preventing plates provided so that their respective distal ends longitudinally contact  
5 opposite side surfaces of said track rail to close gaps between the side surfaces of said track rail and at least inner side surfaces of the skirt portions on both sides of said moving block body and inner side surfaces of said end plates.

10 [2] A guide apparatus according to claim 1, wherein said moving block has a plurality of attachment devices, including lubricators, mounted astride said track rail and secured to outer ends of said end plates in said direction of relative movement, wherein said foreign matter entry  
15 preventing plates also close gaps between the side surfaces of said track rail and inner side surfaces of said attachment devices.

[3] A guide apparatus according to claim 1 or 2, wherein said foreign matter entry preventing plates are secured to  
20 respective end surfaces of the skirt portions on both sides of said moving block body.

[4] A guide apparatus according to claim 1 or 2 or 3, wherein outermost ones of said plurality of attachment devices are metal scrapers formed from metal plates,  
25 wherein longitudinal end surfaces of said foreign matter entry preventing plates are secured to said metal scrapers.

[5] A guide apparatus according to any one of claims 1 to 4, wherein said foreign matter entry preventing plates

each comprise:

a plate-shaped foreign matter entry preventing plate casing made of a material of high rigidity; and

5 a plate-shaped foreign matter entry preventing plate body made of a flexible material, said foreign matter entry preventing plate body being fitted to one side end portion of said foreign matter entry preventing plate casing;

10 wherein one side end surface of said foreign matter entry preventing plate body is brought into contact with one side surface of said track rail.

[6] A guide apparatus according to any one of claims 1 to 5, wherein said foreign matter entry preventing plates each comprise:

15 a plate-shaped foreign matter entry preventing plate casing made of a material of high rigidity;

a plate-shaped foreign matter entry preventing plate body made of a flexible material; and

20 a foreign matter entry preventing plate retainer made of a material of high rigidity;

wherein said foreign matter entry preventing plate casing is secured to an end surface of one of the skirt portions on both sides of said moving block body in a state where one side end surface of said foreign matter entry preventing plate body is brought into contact with one side surface of said track rail and where said foreign matter entry preventing plate body is held between said foreign matter entry preventing plate retainer and said

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foreign matter entry preventing plate casing.

- [7] A guide apparatus according to any one of claims 1  
[to 6] wherein said foreign matter entry preventing plates  
have respective side end surfaces perpendicularly  
5 contacting the opposite side surfaces of said track rail.  
[8] A guide apparatus according to claim 7, wherein said  
foreign matter entry preventing plates have self-  
lubricating capability.